MULTIMEDIA UNIVERSITY

STUDENT ID NO

TABLE NO: _____

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 1, 2018/2019

TCS2411 – SOFTWARE ENGINEERING FUNDAMENTALS

(All sections / Groups)

17th OCTOBER 2018
2.30 PM – 4.30 PM
(2 Hours)

INSTRUCTIONS TO STUDENTS

1. This question paper consists of 10 pages only.
2. Attempt ALL questions. The distribution of the marks for each question is given.
3. Please write all your answers in the answer box associated with each question in this question paper.

Instruction: Write down your answer in the answer box provided.

Question 1. [10 marks]

1(a). Mission Impossible Corporation sells books and CDs using through online shopping. The customer adds items to her shopping cart. She may remove items or go to the check-out to make her purchases at any time. The customer reviews her purchases, chooses a payment method and pays. A sales employee at Mission Impossible Corporation gets the order and purchase confirmation from the system, and sends the electronic order to the warehouse. The warehouse employee updates the order status. The customer may check the order status.

i) Based on your understanding, explain what is a Use Case diagram? (2 mark)

ii) Give two main components of a use case diagram. (2 marks)

ii) Draw the use-case diagram for the online shopping system. (6 marks)

Your answer:

Continued...

Your answer:

Continued...

Question 2. [10 marks]

2(a). Identify FIVE characteristics of a Mobile Application. (5 marks)
2(b). Briefly describe THREE works or activities of "Internal" failure costs that can lead to low quality software. (3 marks)
2(c). Briefly describe TWO works or activities of "External" failure costs that can lead to low quality software. (3 marks)

Your answer:

Continued...

Your answer:

Continued...

Question 3. [10 marks]

3(a). McCall is popular for his McCall's software quality factors. Briefly describe those THREE McCall's software quality factors (3 marks).

3(b). Calculate measure of reliability of mean-time-between-failure (MTBF) of Software X if the:
i) Mean-time-to-failure (MTTF) is 0.8 and mean-time-to-repair (MTTR) is 0.5. (3 marks)
ii) Next, calculate the availability of Software X. (4 marks)

Your answer:

Continued...

Your answer:

Continued...

Question 4. [10 marks]

4(a). Briefly explain the general characteristics of the following Software Process Models: (5 marks)
i) Waterfall Model.
ii) Incremental Models.
iii) Prototyping Model
iv) Spiral Model.
v) Concurrent Development Model.

4(b). A software engineer needs to elicit requirements from stakeholders. Provide FIVE possible elicitation work products. (5 marks)

Your answer:

Continued...

Your answer:

Continued...

Your answer:

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